

Early growth and plant performance of molineria colla species grown under different shade levels and media compositions

ABSTRACT

Molineria or locally known as lemba is a wild herbaceous plant that is found abundantly in the shade areas and under rubber plantations. Main interest on this plant lies on the curculin, the sweet protein that is contained in its fruits which is known to have antidiabetic properties and is a good source of alternative sweetener. The importance of curculin found in the fruit has been discussed but cultivation of lemba was never reported. A study was carried out with the aim of obtaining the optimum growing conditions of Molineria species in nurseries, in relation to different media ratio and light requirement. The specific objectives of this study were to obtain the optimum media composition and shade requirement for *M. latifolia* and *M. rubriclavata* grown under nursery condition. Analysis were based on the selected growth parameters such as plant height, number of leaves, fresh and dry weights of shoots and roots. Plants were grown under two shade structures providing 50% and 70%. The treatment combinations of two species and 10 soil mixtures were randomly assigned in a split plot design with four blocks in each shade structure. The media and species were the main and sub plots respectively. The experimental units were the potted plants, which were arranged in a square pattern of 15cm x 15cm. The potted plants were placed on the floor of black plastic sheets in each shade structure. Plants were harvested 16 weeks after planting (WAP). Data collected were plant height and fresh and dry weight of shoots and roots. Data were analysed using SAS version 9.2 package, and the mean separations was determined by the Duncan's New Multiple Range Test (DNMRT) at $p = 0.05$. Result show that the best shade level for both varieties was 70%. It is concluded that the best media for maintaining Molineria species under nursery condition was 1:3:1(top soil:peat grow:sand) combination for *M. latifolia* var. megacarpa and 2:3:1 for *M. rubriclavata*.

Keyword: Lemba; Light; Media compositions